Appendix B

Table B.1. Major Disturbances and Unusual Occurrences, Year-to-Date through December 2005

Date	Utility/Power Pool (NERC Region)	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
January							
1/04/05	Westar Energy (SPP)	6:00 p.m.	Eastern one third of the state of Kansas	Winter Storm	200	211,000	1/14/05, 12:00 p.m.
1/05/05	Ohio Edison/First Energy (ECAR)	4:00 p.m.	Akron and Mansfield areas	Ice Storm	250	246,990	1/13/05, 6:00 p.m.
1/05/05	American Electric Power (ECAR)	9:10 p.m.	Indiana Michigan Region - Muncie District	Winter Ice Storm	545	114,791	1/16/05, 11:00 a.m.
1/07/05	Pacific Gas and Electric Company (WECC)	1:00 p.m.	Northern California	Winter Storm	120	442,000	1/10/05, 8:00 a.m.
1/19/05	Puerto Rico Electric Power Authority (PR)	9:17 a.m.	Island of Puerto Rico	Voltage Reduction	209	N/A	1/19/05, 9:27 a.m.
1/23/05	Puerto Rico Electric Power Authority (PR)	10:42 a.m.	Island of Puerto Rico	Voltage Reduction	140	N/A	1/23/05, 11:24 a.m.
1/24/05	Puerto Rico Electric Power Authority (PR)	6:38 a.m.	Island of Puerto Rico	Voltage Reduction/Shed Load	225	70,717	1/24/05, 6:50 a.m.
1/24/05	Puerto Rico Electric Power Authority (PR)	12:27 p.m.	Island of Puerto Rico	Voltage Reduction/Shed Load	385	N/A	1/24/05, 12:34 p.m.
1/29/05	Southern Company (SERC)	10:00 a.m.	Parts of Alabama and Georgia	Ice Storm	100	150,000	1/31/05, 10:00 a.m
1/29/05	Georgia System Operations Corporation (GSOC) (SERC)	4:00 p.m.	Georgia	Ice Storm	65 to 100	82,000	1/30/05, 3:00 p.m.
February							
2/01/05	Puerto Rico Electric Power Authority (PR)	5:78 p.m.	Island of Puerto Rico	Voltage Reduction	460	N/A	2/01/05, 6:01 p.m.
2/15/05	Puerto Rico Electric Power Authority (PR)	1:12 p.m.	Island of Puerto Rico	Generator Loss	380	N/A	2/15/05 1:30 p.m.
2/16/05	Puerto Rico Electric Power Authority (PR)	1:26 p.m.	Island of Puerto Rico	Load Shedding	325	139,438	2/16/05, 1:43 p.m.
2/18/05	Puerto Rico Electric Power Authority (PR)	8:16 a.m.	Island of Puerto Rico	Generator Loss/Voltage Reduction	648	372,288	2/18/05, 8:41 a.m.
2/24/05	Puerto Rico Electric Power Authority (PR)	12:58 a.m.	Island of Puerto Rico	Voltage Reduction	200	N/A	2/24/05, 1:05 a.m.
March							
3/08/05	Progress Energy - Carolinas (SERC)	11:00 a.m.	Eastern and Central North Carolina	Wind Storms	180	51,600	3/08/05, 3:00 p.m.
April							
4/01/05	Cleveland Electric Illuminating Company/First Energy Corporation (ECAR)	Midnight	Cleveland, Ohio and northeast Ohio	Winter Storm	N/A	211,000	4/06/05, 12:00 p.m.
4/22/05	Crockett Cogeneration (WECC)	3:51 p.m.	San Francisco Bay area, California	Lightning Strike	126	PG&E	4/22/05, 3:59 p.m.
4/23/05	Puerto Rico Electric Power Authority (PR)	4:22 a.m.	Island of Puerto Rico	Voltage Reduction	345	116,552	4/23/05, 4:48 a.m.
4/23/05	Cleveland Electric Illuminating Company/First Energy Corporation (ECAR)	6:00 a.m	Cleveland, Ohio and northeast Ohio	Winter Storm	N/A	150,000	4/27/05, 6:00 a.m.
4/30/05	Southern Company (SERC)	8:00 a.m.	Alabama and Georgia	Thunderstorms	100	51,808	4/30/05, 10:00 a.m.
May							
5/08/05	CenterPoint Energy Houston Electric (ERCOT)	3:00 p.m.	Houston, Texas and surrounding suburban areas	Strong Thunderstorms	672	243,000	5/08/05, 10:00 p.m.
5/11/05	Puerto Rico Electric Power Authority (PR)	7:00 p.m.	Island of Puerto Rico	Voltage Reduction	529	N/A	5/11/05, 8:31 p.m.
5/29/05	CenterPoint Energy Houston Electric (ERCOT)	8:00 p.m.	Houston, Texas and surrounding suburban areas	Strong Thunderstorms	328	123,000	5/30/05, 2:30 a.m.
June							
6/05/05	DTE Energy (ECAR)	2:00 p.m.	Southeast Michigan	Strong Thunderstorm/High Winds	1,826	201,580	6/10/05, 7:30 a.m.
6/05/05	Consumers Energy (ECAR)	2:00 p.m.	Portions of the southern 2/3 of Michigan's Lower Peninsula	Strong Thunderstorm	50-60	105,000	6/07/05, 6:00 p.m.
6/06/05	New York State Electric and Gas (NPCC)	12:00 p.m.	Central/Eastern New York state	Strong Thunderstorms	N/A	65,000	6/08/05, 6:00 p.m.

Table B.1. Major Disturbances and Unusual Occurrences, Year-to-Date through December 2005 (Continued)

	(Continuea)			1		•	
Date	Utility/Power Pool (NERC Region)	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
6/06/05	PECO Energy (MAAC)	4:43 p.m.	Bucks, Montgomery, Delaware, Chester, Philadelphia counties, Pennsylvania	Strong Thunderstorm	N/A	143,000	6/07/05, 10:00 p.m.
6/08/05	Xcel Energy - Northern States Power (MRO)	4:00 a.m.	Minnesota	Strong Thunderstorm	50-100	300,000	6/10/05, 10:00 p.m.
6/20/05	Puerto Rico Electric Power Authority (PR)	11:16 a.m.	Island of Puerto Rico	Voltage Reduction	35	600,000	6/20/05, 5:15 pm.
6/24/05	Commonwealth Edison Company (MAIN)	8:37 p.m.	Chicago, Illinois	Transmission Equipment Failure	350	51,500	6/24/05, 11:06 p.m.
6/28/05	Public Service Company of Colorado (WECC)	11:30 a.m.	Denver Metropolitan area of Colorado	Fuel Supply Deficiency/Coal Rail Transportation Interruption	0	0	Ongoing
6/29/05	DTE Energy (ECAR)	4:30 p.m.	Southeast Michigan	Strong Thunderstorm/High Winds	1,000	114,711	7/04/05, 11:30 p.m.
July							
7/01//05	Southwestern Public Service Company (ERCOT)	N/A	Texas, New Mexico, Oklahoma, Kansas	Fuel Supply - Deficiency Coal Rail Transporation Interruption	0	0	Ongoing
7/02/05	Puerto Rico Electric Power Authority (PR)	1:27 a.m.	Island of Puerto Rico	Load Shedding	226	132,290	7/02/05, 1:46 a.m.
7/05/05	Entergy Corporation (SPP)	9:00 p.m.	Southeast and Northeast, Louisiana including the New Orleans area	Tropical Storm Cindy	unknown	287,000	7/06/05, 9:00 a.m.
7/10/05	Southern Company (SERC)	8:00 a.m.	Alabama, Mississippi, Florida, Georgia	Hurricane Dennis	45	228,102	7/12/05, 8:00 a.m.
7/10/05	Alabama Electric Coop Inc. (SERC)	12:53 p.m.	Southwest Alabama and Western Panhandle of Florida	Hurricane Dennis	51.2	50,000	7/11/05, 5:33 pm.
7/21/05	Southern California Edison Company (WECC)	2:39 p.m.	Southern California	CA ISO Stage 2 - Initiated interruption of Air Conditioner Cycling Interruptible Load Program	197	128,050	7/21/05, 5:30 p.m.
7/22/05	Southern California Edison Company (WECC)	1:55 p.m.	Southern California	CA ISO Stage 2 - Initiated interruption of Air Conditioner Cycling Interruptible Load Program	206	133,900	7/22/05, 6:00 p.m.
7/23/05	Potomac Electric Power Company (Pepco) (MAAC)	1:02 a.m.	Washington, DC, Montgomery and Prince Georges Counties, Maryland	Severe Thunderstorms	N/A	55,118	7/26/05, 10:50 a.m.
7/27/05	PECO Energy (MAAC)	4:50 p.m	Bucks, Chester, Delaware, Montgomery and Philadelphia counties, Pennsylvania	Severe Thunderstorms	N/A	93,837	7/28/05, 9:24 p.m.
7/27/05	Potomac Electric Power Company (Pepco) (MAAC)	5:50 p.m.	Washington, DC, Montgomery and Prince Georges Counties, Maryland	Severe Thunderstorm	N/A	64,943	7/30/05, 9:07 p.m.
7/27/05	Baltimore Gas and Electric Company (MAAC)	6:00 p.m.	Baltimore County, Anne Arundel County and Prince Georges County, Maryland	Severe Thunderstorms	N/A	87,600	7/29/05, 4:00 p.m.
7/28/05	Duke Energy Company/Duke Power Control Area (SERC)	8:30 p.m.	Piedmont North and South Carolina	Severe Thunderstorm	300	52,200	8/01/05, 5:00 p.m.
August							
8/01/05	Puerto Rico Electric Power Authority (PR)	10:28 a.m.	Island of Puerto Rico	Voltage Reduction/Load Shed	175	47,116	8/01/05, 10:47 a.m.
8/08/05	Crockett Cogeneration (WECC)	12:38 p.m.	San Francisco Bay area, California	Plant Tripped	240	PG&E	8/08/05, 4:00 p.m.

Table B.1. Major Disturbances and Unusual Occurrences, Year-to-Date through December 2005 (Continued)

	(Continued)				1		
Date	Utility/Power Pool (NERC Region)	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
8/19/05	Puerto Rico Electric Power Authority (PR)	7:37 p.m.	Island of Puerto Rico	Voltage Reduction/Load Shed	259	71,864	8/19/05, 8:15 p.m.
8/20/05	American Electric Power -AEP West (ECAR)	2:15 p.m.	Northwest Arkansas	Severe Thunderstorms	650	50,797	8/20/05, 4:21 p.m.
8/25/05	California ISO (WECC)	3:50 p.m.	Southern California	CAISO determined there was inadequate electric resources to serve load. Public appeals and a shedding of interruptible and firm load occurred.	-	-	8/25/05, 8:00 p.m.
8/25/05	Southern California Edison Company (WECC)	3:51 p.m.	Southern California	CAISO initiated interruption of interruptible and firm load due to declaration of Transmission Emergency in Southern California	864	409,000	8/25/05, 8:00 p.m.
8/29/05	Louisiana Generating, LLC (SPP)	1:10 a.m.	East and Southeast Louisiana	Hurricane Katrina	300	143,000	8/29/05, 12:42 p.m.
8/29/05	Entergy Corporation (SPP)	6:00 a.m.	Buras, Louisiana	Hurricane Katrina	N/A	1.1 million and 100,000 gas customers	8/30/05, 6:00 a.m.
8/29/05	Progress Energy Florida (FRCC)	7:10 a.m.	Counties of Alachua, Bay, Citrus, Columbia, Dixie, Franklin, Gilchrist, Gulf, Hamilton, Hardee, Hernando, Highlands, Jefferson, Lafayette, Lake, Levy, Madison, Marion, Orange, Osceola, Pasco, Pinellas, Polk, Seminole, Sumter, Suwannee, Taylor, Volusia and Wakulla	Hurricane Katrina disrupted fuel supply in the Gulf of Mexico. Public appeals for conservation were issued.	0	0	9/07/05, 3:00 p.m.
8/29/05	Southern Company (SERC)	7:10 a.m.	Alabama, Florida, Mississippi	Hurricane Katrina	5,120	512,049	8/29/05, 10:00 p.m.
8/29/05	Tennessee Valley Authority (SERC)	3:50 p.m.	Alabama, Mississippi, Tennessee	Hurricane Katrina	118.5	323,529	9/10/05, 12:00 p.m.
8/29/05	City of Lakeland (FRCC)	5:00 p.m.	City of Lakeland, Florida	Hurricane Katrina disrupted normal gas allotment through natural gas pipelines (FGT & Gulf stream). Public appeals for conservation were issued.	0	0	9/08/05,12:01 a.m.
8/31/05	Seminole Electric Cooperative (FRCC)	4:00 p.m.	Member Service Territory is located in the West coast of Florida from Tallahassee to Fort Myers	Hurricane Katrina disrupted normal gas supplies distribution. Public appeals for conservation were issued.	0	0	9/12/05, 8:00 a.m.
September							
09/12/05	Los Angeles Department of Water and Power (WECC)	12:32 p.m.	Los Angeles, California	Breaker protection cable accidentally cut	2,578	900,000	9/12/05, 1:56 p.m.
09/13/05	Puerto Rico Electric Power Authority (PR)	2:14 p.m.	Island of Puerto Rico	Voltage Reduction/Load Shed	249	66,480	9/13/05, 2:29 p.m.
09/13/05	We Energies (MAIN)	6:30 p.m.	Southeast Wisconsin and Fox Valley	Severe Storm	600	110,000	9/16/05, 8:00 p.m.
09/14/05	Progress Energy - Carolinas (SERC)	3:00 p.m.	Eastern North Carolina	Hurricane Ophelia	215	60,000	9/15/05, 3:00 p.m.
09/21/05	Xcel Energy - Northern States Power (MRO)	7:00 p.m.	Minnesota	High Winds/Tornados	N/A	200,000	9/27/05, 11:00 p.m.
09/22/05	DTE Energy (ECAR)	11:00 a.m.	Southeast Michigan	Severe Thunderstorm	366	53,000	9/26/05, 11:30 p.m.

Table B.1. Major Disturbances and Unusual Occurrences, Year-to-Date through December 2005 (Continued)

					_	Number of	
Date	Utility/Power Pool (NERC Region)	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Customers Affected ¹	Restoration Date/Time
09/22/05	Progress Energy Florida (FRCC)	12:00 p.m.	Counties of Alachua, Bay, Citrus, Columbia, Dixie, Franklin, Gilchrist, Gulf, Hamilton, Hardee, Hernando, Highlands, Jefferson, Lafayette, Lake, Levy, Madison, Marion, Orange, Osceola, Pasco, Pinellas, Polk, Seminole, Sumter, Suwannee, Taylor, Volusia and Wakulla	Hurricane Rita disrupted fuel supply in the Gulf of Mexico. Public Appeals for conservation were issued.	0	0	9/29/05, 12:00 p.m.
09/23/05	City of Lakeland (FRCC)	7:00 a.m.	Lakeland, Florida	Hurricane Rita disrupted normal gas allotment through natural gas pipelines (FGT & Gulf stream). Public Appeals for conservation were issued.	0	0	9/28/05, 11:29 a.m.
09/23/05	Louisiana Generating, LLC (SPP)	1:06 p.m.	West and Southwest Louisiana	Hurricane Rita	350	125,000	10/06/05, 2:30 p.m.
09/23/05	CenterPoint Energy Houston Electric (ERCOT)	5:00 p.m.	Houston, Texas and the surrounding suburban areas	Hurricane Rita	1,950	715,000	9/24/05, 8:00 p.m.
09/23/05	Entergy Corporation (SPP)	9:00 p.m.	Texas, Louisiana, Arkansas, and Mississippi	Hurricane Rita	N/A	766,000	9/25/05, 7:30 a.m.
09/24/05	TXU Electric Delivery Company (ERCOT)	6:00 a.m.	Nacogdoches, Lufkin, Tyler, Jacksonville, Rusk, Paris, Commerce, Huntington	Hurricane Rita	260	200,000	10/02/05, 5:00 p.m.
09/24/05	American Electric Power - CSWS (ECAR)	10:00 a.m.	Shreveport, Louisiana	Hurricane Rita	700	190,000	9/28/05, 6:00 p.m.
October							
10/02/05	Puerto Rico Electric Power Authority (PR)	5:40 p.m.	Island of Puerto Rico	Voltage Reduction/Load Shed	312	71,240	10/02/05, 5:54 p.m.
10/18/05	Puerto Rico Electric Power Authority (PR)	3:19 p.m.	Island of Puerto Rico	Voltage Reduction/Load Shed	460	142,591	10/18/05, 3: 37 p.m.
10/22/05	Puerto Rico Electric Power Authority (PR)	9:44 a.m.	Island of Puerto Rico	Voltage Reduction/Load Shed	360	85,682	10/22/05, 11:40 a.m.
10/23/05	Florida Power and Light (FRCC)	8:00 p.m	South Florida, Naples, Ft. Myers, Miami, Ft. Lauderdale, West Palm Beach and Martin county	Hurricane Wilma	10,000	3,241,437	10/24/05, 2:00 p.m.
10/24/05	Seminole Electric Cooperative (FRCC)	4:00 a.m.	Florida counties of Collier, Charlotte and Lee	Hurricane Wilma	280	105,000	10/24/05, 4:00 p.m.
10/24/05	Florida Municipal Power Agency (FRCC)	7:00 a.m.	South Florida - Cities of Key West, Clewiston, Lake Worth, and Ft. Pierce	Hurricane Wilma	148	84,900	11/10/05, 12:00 a.m.
10/24/05	Allegheny Power (MAAC)	8:00 p.m.	Maryland, North Central West Virginia, Southwestern Pennsylvania, and Northern Pennsylvania	Hurricane Wilma	400	303,795	11/02/05, 4:30 p.m.
November							
11/03/05	Crockett Cogeneration (WECC)	6:47 p.m.	San Francisco Bay area, California	Plant Tripped	136		11/03/05, 7:00 p.m.
11/06/05	DTE Energy (ECAR)	7:30 a.m.	Southeast Michigan	Severe Thunderstorm	212	118,000	11/11/05, 11:30 p.m.
11/12/05	We Energies (MAIN)	4:00 p.m.	Southeast Wisconsin	Severe Thunderstorms	10	48,000	11/14/05, 6:00 p.m.
11/12/05	Consumers Energy (ECAR)	11:00 p.m.	Western and Central portions of Michigan's Lower Peninsula	Severe Thunderstorm	408	272,355	11/14/05, 11:59 p.m.

Table B.1. Major Disturbances and Unusual Occurrences, Year-to-Date through December 2005 (Continued)

Date	Utility/Power Pool (NERC Region)	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
December							
12/15/05	Duke Energy Company/Duke Power Control Area (SERC)	4:00 a.m.	Piedmont North Carolina and South Carolina	Ice Storm	3,500	683,000	12/21/05, 5:00 p.m.
12/15/05	Southern Company (SERC)	5:05 a.m.	Northeast Georgia	Ice Storm	75	52,659	12/16/05, 12:10 p.m.
12/31/05	Pacific Gas and Electric (WECC)	6:00 a.m.	Northern and Central California	Severe Storms	800	1,667,316	01/05/06, 9:00 a.m.

¹ = Estimated Values.

Note: North American Electric Reliability Council region acronyms are defined in the glossary. Source: Form EIA-417, "Electric Emergency Incident and Disturbance Report."